

THAT WHICH IS CLAIMED:

1. A method for modulating the level or activity of a polypeptide in a cell,  
the method comprising contacting a cell expressing said polypeptide with an agent under  
5 conditions that allow the agent to modulate the level or activity of the polypeptide,  
wherein said polypeptide is selected from the group consisting of :

(a) a polypeptide having the amino acid sequence shown in SEQ ID  
NO:1; and

(b) a polypeptide having the amino acid sequence shown in SEQ ID  
10 NO:3;

and the cell is selected from the group consisting of brain cells, spinal cord cells, dorsal  
root ganglia cells, trigeminal ganglia cells, and superior cervical ganglia cells.

2. The method of claim 1, wherein said agent is an antibody.

3. The method of claim 1, wherein said cell is *in vitro*.

4. The method of claim 1, wherein said cell is *in vivo*.

5. The method of claim 4 wherein said cell is from a subject having a  
20 disorder involving said cell.

6. The method of claim 1 wherein said modulation is in a subject having or  
predisposed to having a disorder involving pain.

7. A method for modulating the level or activity of a polypeptide in a cell,  
the method comprising contacting a cell expressing said polypeptide with an agent under  
conditions that allow the agent to modulate the level or activity of the polypeptide,  
wherein said polypeptide is selected from the group consisting of :

(a) a polypeptide comprising the amino acid sequence of a sequence  
30 variant of the amino acid sequence shown in SEQ ID NO:1, wherein said sequence

variant has G-protein mediated signal transduction activity and is encoded by a nucleotide sequence having at least about 70% sequence identity with the nucleotide sequence set forth in SEQ ID NO:2;

(b) a polypeptide comprising the amino acid sequence of a sequence variant of the amino acid sequence shown in SEQ ID NO:1, wherein said sequence variant has G-protein mediated signal transduction activity and is encoded by a nucleotide sequence having at least about 80% sequence identity with the nucleotide sequence set forth in SEQ ID NO:2;

(c) a polypeptide comprising the amino acid sequence of a sequence variant of the amino acid sequence shown in SEQ ID NO:1, wherein said sequence variant has G-protein mediated signal transduction activity and is encoded by a nucleotide sequence having at least about 90% sequence identity with the nucleotide sequence set forth in SEQ ID NO:2;

(d) a polypeptide comprising the amino acid sequence of a sequence variant of the amino acid sequence shown in SEQ ID NO:3, wherein said sequence variant has G-protein mediated signal transduction activity and is encoded by a nucleotide sequence having at least about 70% sequence identity with the nucleotide sequence set forth in SEQ ID NO:4;

(e) a polypeptide comprising the amino acid sequence of a sequence variant of the amino acid sequence shown in SEQ ID NO:3, wherein said sequence variant has G-protein mediated signal transduction activity and is encoded by a nucleotide sequence having at least about 80% sequence identity with the nucleotide sequence set forth in SEQ ID NO:4;

(f) a polypeptide comprising the amino acid sequence of a sequence variant of the amino acid sequence shown in SEQ ID NO:3, wherein said sequence variant has G-protein mediated signal transduction activity and is encoded by a nucleotide sequence having at least about 90% sequence identity with the nucleotide sequence set forth in SEQ ID NO:4

(g) a polypeptide comprising the amino acid sequence of a sequence variant of the amino acid sequence shown in SEQ ID NO:1, wherein the sequence variant has G-protein mediated signal transduction activity and is encoded by a nucleic acid

molecule that hybridizes to the complement of the nucleotide sequence set forth in SEQ ID NO:2 under stringent conditions, said stringent conditions comprising hybridization in 6X SSC at about 45°C followed by one or more washes in 0.2X SSC/0.1% SDS at 65°C;

- (h) a polypeptide comprising the amino acid sequence of a sequence variant of the amino acid sequence shown in SEQ ID NO:3, wherein the sequence variant has G-protein mediated signal transduction activity and is encoded by a nucleic acid molecule that hybridizes to the complement of the nucleotide sequence set forth in SEQ ID NO:4 under stringent conditions, said stringent conditions comprising hybridization in 6X SSC at about 45°C followed by one or more washes in 0.2X SSC/0.1% SDS at 65°C;
- (i) a polypeptide comprising the amino acid sequence set forth as amino acids 6 to 342 of the amino acid sequence shown in SEQ ID NO:1; and
- (j) a polypeptide comprising the amino acid sequence set forth as amino acids 6 to 342 of the amino acid sequence shown in SEQ ID NO:3; and the cell is selected from the group consisting of brain cells, spinal cord cells, dorsal root ganglia cells, trigeminal ganglia cells, and superior cervical ganglia cells.

8. The method of claim 7, wherein said agent is an antibody.

9. The method of claim 7, wherein said cell is *in vitro*.

10. The method of claim 7, wherein said cell is *in vivo*.

11. The method of claim 10 wherein said cell is from a subject having a disorder involving said cell.

12. The method of claim 7 wherein said modulation is in a subject having or predisposed to having a disorder involving pain.

13. A method for modulating the level of a nucleic acid molecule in a cell, said method comprising contacting a cell containing said nucleic acid molecule with an agent under conditions that allow the agent to modulate the level of the nucleic acid

molecule, wherein said nucleic acid molecule has a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence set forth in SEQ ID NO:2;
- (b) a nucleotide sequence encoding the amino acid sequence set forth in  
5 SEQ ID NO:1;
- (c) the nucleotide sequence set forth in SEQ ID NO:4; and
- (d) a nucleotide sequence encoding the amino acid sequence set forth in  
SEQ ID NO:3.

and the cell is selected from the group consisting of brain cells, spinal cord cells, dorsal  
10 root ganglia cells, trigeminal ganglia cells, and superior cervical ganglia cells.

14. The method of claim 13, wherein said cell is *in vitro*.

15. The method of claim 13, wherein said cell is *in vivo*.

16. The method of claim 15 wherein said cell is from a subject having a  
disorder involving said cell.

17. The method of claim 13 wherein said modulation is in a subject having or  
20 predisposed to having a disorder involving pain.

18. A method for modulating the level of a nucleic acid molecule in a cell,  
said method comprising contacting a cell containing said nucleic acid molecule with an  
agent under conditions that allow the agent to modulate the level of the nucleic acid  
25 molecule, wherein said nucleic acid molecule has a nucleotide sequence selected from the  
group consisting of:

- (a) a nucleotide sequence encoding a polypeptide having G-protein  
mediated signal transduction activity, wherein said nucleotide sequence having at least about  
70% sequence identity with the nucleotide sequence set forth in SEQ ID NO:2;

(b) a nucleotide sequence encoding a polypeptide having G-protein mediated signal transduction activity, wherein said nucleotide sequence having at least about 80% sequence identity with the nucleotide sequence set forth in SEQ ID NO:2;

5 (c) a nucleotide sequence encoding a polypeptide having G-protein mediated signal transduction activity, wherein said nucleotide sequence having at least about 90% sequence identity with the nucleotide sequence set forth in SEQ ID NO:2;

(d) a nucleotide sequence encoding a polypeptide having G-protein mediated signal transduction activity, wherein said nucleotide sequence hybridizes to the nucleotide sequence set forth in SEQ ID NO:2 under stringent conditions, said stringent  
10 conditions comprising hybridization in 6X SSC at about 45°C followed by one or more washes in 0.2X SSC/0.1% SDS at 65°C;

(e) a nucleotide sequence encoding a polypeptide having G-protein mediated signal transduction activity, wherein said nucleotide sequence having at least about 70% sequence identity with the nucleotide sequence set forth in SEQ ID NO:4;

15 (f) a nucleotide sequence encoding a polypeptide having G-protein mediated signal transduction activity, wherein said nucleotide sequence having at least about 80% sequence identity with the nucleotide sequence set forth in SEQ ID NO:4;

(g) a nucleotide sequence encoding a polypeptide having G-protein mediated signal transduction activity, wherein said nucleotide sequence having at least about  
20 90% sequence identity with the nucleotide sequence set forth in SEQ ID NO:4; and

(h) a nucleotide sequence encoding a polypeptide having G-protein mediated signal transduction activity, wherein said nucleotide sequence hybridizes to the nucleotide sequence set forth in SEQ ID NO:2 under stringent conditions, said stringent  
25 conditions comprising hybridization in 6X SSC at about 45°C followed by one or more washes in 0.2X SSC/0.1% SDS at 65°C;

and the cell is selected from the group consisting of brain cells, spinal cord cells, dorsal root ganglia cells, trigeminal ganglia cells, and superior cervical ganglia cells.

19. The method of claim 18, wherein said cell is *in vitro*.

20. The method of claim 18, wherein said cell is *in vivo*.

